

## AMENDMENTS TO THE CLAIMS

Please cancel claims 25, 29-43, 45-48, 63-76, 78-102, 110-115, 118 and 119.

Please amend claims 1-6, 12, 44, 49-53, 56, 77 and 117 as shown in the following list of claims:

1. (currently amended) An isolated antibody, or an antigen-binding antibody fragment, that preferentially binds cell-associated CA 125/O772P polypeptide relative to shed CA 125/O772P polypeptide, wherein the isolated antibody, or the antigen-binding antibody fragment, binds a repeat region present within SEQ ID NO:1.

2. (currently amended) The isolated antibody, or the antigen-binding antibody fragment, of Claim 1, wherein the antibody or antibody fragment, in an ELISA Competition Assay, exhibits less than about 25% inhibition of binding to the peptide of SEQ ID NO:1 ~~Figure 1~~ in the presence of a 25-fold (weight/weight) excess of shed CA 125/O772P over the peptide of SEQ ID NO:1 ~~Figure 1~~.

3. (currently amended) The isolated antibody, or the antigen-binding antibody fragment, of Claim 2, wherein the antibody or antibody fragment, in an ELISA Competition Assay, exhibits less than about 20% inhibition of binding to the peptide of SEQ ID NO:1 ~~Figure 1~~ in the presence of a 25-fold (weight/weight) excess of shed CA 125/O772P over the peptide of SEQ ID NO:1 ~~Figure 1~~.

4. (currently amended) The isolated antibody, or the antigen-binding antibody fragment, of Claim 3, wherein the antibody or antibody fragment, in an ELISA Competition Assay, exhibits less than about 15% inhibition of binding to the peptide of SEQ ID NO:1 ~~Figure 1~~ in the presence of a 25-fold (weight/weight) excess of shed CA 125/O772P over the peptide of SEQ ID NO:1 ~~Figure 1~~.

5. (currently amended) The isolated antibody, or the antigen-binding antibody fragment, of Claim 4, wherein the antibody or antibody fragment, in an ELISA Competition Assay, exhibits less than about 10% inhibition of binding to the peptide of SEQ ID NO:1 ~~Figure 1~~ in the presence of a 25-fold (weight/weight) excess of shed CA 125/O772P over the peptide of SEQ ID NO:1 ~~Figure 1~~.

6. (currently amended) The isolated antibody, or the antigen-binding antibody fragment, of Claim 5, wherein the antibody or antibody fragment, in an ELISA Competition

Assay, exhibits less than about 5% inhibition of binding to the peptide of SEQ ID NO:1 ~~Figure 1~~ in the presence of a 25-fold (weight/weight) excess of shed CA 125/O772P over the peptide of SEQ ID NO:1 ~~Figure 1~~.

7. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 1, wherein the antibody or antibody fragment, in a Flow Cytometry Assay, exhibits an  $IC_{50}$ , as measured by percent-positive cells, of at least about 0.05 mg/ml shed CA 125/O772P.

8. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 7, wherein the antibody or antibody fragment, in a Flow Cytometry Assay, exhibits an  $IC_{50}$ , as measured by percent-positive cells, of at least about 0.25 mg/ml shed CA 125/O772P.

9. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 8 wherein the antibody or antibody fragment, in a Flow Cytometry Assay, exhibits an  $IC_{50}$ , as measured by percent-positive cells, of at least about 0.5 mg/ml shed CA 125/O772P.

10. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 9, wherein the antibody or antibody fragment, in a Flow Cytometry Assay, exhibits an  $IC_{50}$ , as measured by percent-positive cells, of at least about 0.75 mg/ml shed CA 125/O772P.

11. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 10, wherein the antibody or antibody fragment, in a Flow Cytometry Assay, exhibits an  $IC_{50}$ , as measured by percent-positive cells, of at least about 1.0 mg/ml shed CA 125/O772P.

12. (currently amended) The isolated antibody, or the antigen-binding antibody fragment, of Claim 1, wherein the antibody or antibody fragment binds the peptide of SEQ ID NO:1 ~~Figure 1~~, but does not detectably bind shed CA 125/O772P.

13. (original) The isolated antibody of Claim 1, wherein the antibody is an IgG class antibody.

14. (original) The isolated antibody of Claim 13, wherein the antibody is an IgG<sub>1</sub> isotype.

15. (original) The isolated antibody of Claim 1, wherein the antibody is a monoclonal antibody.

16. (original) The isolated antibody of Claim 15, wherein the antibody is a chimeric monoclonal antibody.

17. (original) The isolated antibody of Claim 16, wherein the chimeric monoclonal antibody comprises a C $\gamma$ 1 constant region.

18. (original) The isolated antibody of Claim 16, wherein the chimeric monoclonal antibody comprises a C $\gamma$ 4 constant region.

19. (original) The isolated antibody of Claim 1, wherein the antibody is a humanized monoclonal antibody.

20. (original) The isolated antibody of Claim 15, wherein the antibody is a human monoclonal antibody.

21. (original) The isolated antibody of Claim 1, wherein the antibody is a bi-specific antibody.

22. (original) The isolated antibody of Claim 1, wherein the antibody is a multi-specific antibody.

23. (original) The isolated antibody of Claim 1, wherein the antibody is a chimeric antibody.

24. (original) The isolated antibody of Claim 1, wherein the antibody is a single chain antibody, a disulfide-linked F $\nu$ s, a single chain F $\nu$ s, or an anti-idiotypic antibody.

25. (canceled).

26. (original) A monoclonal antibody produced by hybridoma 4E7 (ATCC<sup>®</sup> Accession No. PTA-5109), 7A11 (ATCC<sup>®</sup> Accession No. PTA-5110), 7C6 (ATCC<sup>®</sup> Accession No. PTA-5111), 7F10 (ATCC<sup>®</sup> Accession No. PTA-5112), 7G10 (ATCC<sup>®</sup> Accession No. PTA-5245), 7H1 (ATCC<sup>®</sup> Accession No. PTA-5114), 8A1 (ATCC<sup>®</sup> Accession No. PTA-5115), 8B5 (ATCC<sup>®</sup> Accession No. PTA-5116), 8C3 (ATCC<sup>®</sup> Accession No. PTA-5246), 8E3 (ATCC<sup>®</sup> Accession No. PTA-5118), 8G9 (ATCC<sup>®</sup> Accession No. PTA-5119), 15C9 (ATCC<sup>®</sup> Accession No. PTA-5106), 16C7 (ATCC<sup>®</sup> Accession No. PTA-5107), 16H9 (ATCC<sup>®</sup> Accession No. PTA-5108), 117.1 (ATCC<sup>®</sup> Accession No. PTA-4567), 325.1 (ATCC<sup>®</sup> Accession No. PTA-5120), 368.1 (ATCC<sup>®</sup> Accession No. PTA-4568), 446.1 (ATCC<sup>®</sup> Accession No. PTA-5549), 501.1 (ATCC<sup>®</sup> Accession No. PTA-4569), 621.1

(ATCC<sup>®</sup> Accession No. PTA-5121), 633.1 (ATCC<sup>®</sup> Accession No. PTA-5122), 654.1 (ATCC<sup>®</sup> Accession No. PTA-5247), 725.1 (ATCC<sup>®</sup> Accession No. PTA-5124), or 776.1 (ATCC<sup>®</sup> Accession No. PTA-4570).

27. (original) A monoclonal antibody that competes with binding of the monoclonal antibody of Claim 26.

28. (original) A hybridoma as deposited as hybridoma 4E7 (ATCC<sup>®</sup> Accession No. PTA-5109), 7A11 (ATCC<sup>®</sup> Accession No. PTA-5110), 7C6 (ATCC<sup>®</sup> Accession No. PTA-5111), 7F10 (ATCC<sup>®</sup> Accession No. PTA-5112), 7G10 (ATCC<sup>®</sup> Accession No. PTA-5245), 7H1 (ATCC<sup>®</sup> Accession No. PTA-5114), 8A1 (ATCC<sup>®</sup> Accession No. PTA-5115), 8B5 (ATCC<sup>®</sup> Accession No. PTA-5116), 8C3 (ATCC<sup>®</sup> Accession No. PTA-5246), 8E3 (ATCC<sup>®</sup> Accession No. PTA-5118), 8G9 (ATCC<sup>®</sup> Accession No. PTA-5119), 15C9 (ATCC<sup>®</sup> Accession No. PTA-5106), 16C7 (ATCC<sup>®</sup> Accession No. PTA-5107), 16H9 (ATCC<sup>®</sup> Accession No. PTA-5108), 117.1 (ATCC<sup>®</sup> Accession No. PTA-4567), 325.1 (ATCC<sup>®</sup> Accession No. PTA-5120), 368.1 (ATCC<sup>®</sup> Accession No. PTA-4568), 446.1 (ATCC<sup>®</sup> Accession No. PTA-5549), 501.1 (ATCC<sup>®</sup> Accession No. PTA-4569), 621.1 (ATCC<sup>®</sup> Accession No. PTA-5121), 633.1 (ATCC<sup>®</sup> Accession No. PTA-5122), 654.1 (ATCC<sup>®</sup> Accession No. PTA-5247), 725.1 (ATCC<sup>®</sup> Accession No. PTA-5124), or 776.1 (ATCC<sup>®</sup> Accession No. PTA-4570).

29. - 43. (canceled).

44. (currently amended) The isolated antibody, or antigen-binding antibody fragment, of Claim 32 1, wherein the antibody or antigen-binding antibody fragment comprises a light chain variable region that comprises the amino acid sequence depicted in SEQ ID NO:33, and wherein the antibody or antigen-binding antibody fragment comprises a heavy chain variable region that comprises the amino acid sequence depicted in SEQ ID NO:34.

45. - 48. (canceled).

49. (currently amended) The isolated antibody, or antigen-binding antibody fragment, of Claim 1, wherein the antibody, or antigen-binding antibody fragment binds the peptide of SEQ ID NO:1 ~~Figure 1~~ with a  $K_d$  of less than about 100nM as measured in an antigen-antibody affinity assay ~~BIAcore Affinity Assay~~.

50. (currently amended) The isolated antibody, or antigen-binding antibody fragment, of Claim 49, wherein the antibody, or antigen-binding antibody fragment binds the peptide of SEQ ID NO:1 Figure 1 with a  $K_d$  of less than about 10nM as measured in an antigen-antibody affinity assay ~~BIAcore Affinity Assay~~.

51. (currently amended) The isolated antibody, or antigen-binding antibody fragment, of Claim 50, wherein the antibody, or antigen-binding antibody fragment binds the peptide of SEQ ID NO:1 Figure 1 with a  $K_d$  of less than about 1nM as measured in an antigen-antibody affinity assay ~~BIAcore Affinity Assay~~.

52. (currently amended) The isolated antibody, or antigen-binding antibody fragment, of Claim 51, wherein the antibody, or antigen-binding antibody fragment binds the peptide of SEQ ID NO:1 Figure 1 with a  $K_d$  of less than about 100pM as measured in an antigen-antibody affinity assay ~~BIAcore Affinity Assay~~.

53. (currently amended) The isolated antibody, or antigen-binding antibody fragment, of Claim 52, wherein the antibody, or antigen-binding antibody fragment binds the peptide of SEQ ID NO:1 Figure 1 with a  $K_d$  of less than about 10pM as measured in an antigen-antibody affinity assay ~~BIAcore Affinity Assay~~.

54. (original) The antibody or antigen-binding antibody fragment of Claim 1, wherein the antibody or antigen-binding antibody fragment is modified by amino acid substitution, deletion, or addition, or a combination thereof, and has the same or an increased affinity for cell-associated CA 125/O772P relative to that of a corresponding unmodified antibody or antigen-binding antibody fragment.

55. (original) The isolated antibody, or antigen-binding antibody fragment, of Claim 1, wherein the antibody or antigen-binding antibody fragment is modified by amino acid substitution, deletion, or addition, or a combination thereof, and wherein the antibody or antigen-binding antibody fragment exhibits the same or an increased serum half-life compared to a corresponding unmodified antibody or antigen-binding antibody fragment.

56. (currently amended) The isolated antibody, or the antigen-binding antibody fragment, of Claim 1, wherein the antibody or antibody fragment mediates lysis of a CA 125/O772P-positive tumor cell in an antibody-dependent cellular cytotoxicity ("ADCC") assay.

57. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 56, wherein the antibody or antibody fragment mediates at least about 10% lysis of a CA 125/O772P-positive tumor cell in an ADCC assay at a 50:1 effector:target ratio at a concentration of 5.0  $\mu$ g antibody or antigen-binding fragment per ml.

58. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 56, wherein the antibody or antibody fragment mediates at least about 10% lysis of a CA 125/O772P-positive tumor cell in an ADCC assay at a 25:1 effector:target ratio at a concentration of 5.0  $\mu$ g antibody or antigen-binding fragment per ml.

59. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 56, wherein the antibody or antibody fragment mediates at least about 10% lysis of a CA 125/O772P-positive tumor cell in an ADCC assay at a 12.5:1 effector:target ratio at a concentration of 5.0  $\mu$ g antibody or antigen-binding fragment per ml.

60. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 56, wherein the antibody or antibody fragment mediates at least about 10% lysis of a CA 125/O772P-positive tumor cell in an ADCC assay at a 12.5:1 effector:target ratio at a concentration of 50 ng antibody or antigen-binding fragment per ml.

61. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 1, wherein the antibody or antibody fragment mediates lysis of a CA 125/O772P-positive tumor cell in an complement-dependent cytotoxicity (CDC) assay.

62. (original) The isolated antibody, or the antigen-binding antibody fragment, of Claim 61, wherein the antibody or antibody fragment mediates in a range from about 15% lysis at 5  $\mu$ g/ml antibody or antigen-binding antibody fragment to about 95% lysis at about 0.1  $\mu$ g/ml antibody or antigen-binding antibody fragment.

63. – 76. (canceled).

77. (currently amended) A fusion polypeptide comprising an antibody, or an antigen-binding antibody fragment, which preferentially binds cell-associated CA 125/O772P relative to shed CA 125/O772P, wherein the isolated antibody, or the antigen-binding antibody fragment, binds a repeat region present within SEQ ID NO:1, operably linked to a heterologous agent.

78. - 102. (canceled).

103. (original) A hybridoma that can secrete an antibody of Claim 1.
104. (original) The isolated antibody or antigen-binding fragment of Claim 1 conjugated to a cytotoxic agent.
105. (original) The isolated antibody or antigen-binding fragment of Claim 104, wherein the cytotoxic agent is a radioisotope.
106. (original) The isolated antibody or antigen-binding fragment of Claim 105, wherein the radioisotope is selected from the group consisting of  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{111}\text{In}$ ,  $^{99\text{m}}\text{Tc}$  and  $^{90}\text{Y}$ .
107. (original) The monoclonal antibody of Claim 26 or 27, which is conjugated to a cytotoxic agent.
108. (original) The monoclonal antibody of Claim 107, wherein the cytotoxic agent is a radioisotope.
109. (original) The monoclonal antibody of Claim 108, wherein the radioisotope is selected from the group consisting of  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{111}\text{In}$ ,  $^{99\text{m}}\text{Tc}$  and  $^{90}\text{Y}$ .
110. – 115. (canceled).
116. (original) A monoclonal antibody selected from the group consisting of 325.1, 621.1, 633.1, 654.1, 725.1, 8G9, 7F10, 8A1, 8C3, 15C9, 8E3, 8B5, 7G10, 16C7, 7C6, 7H1, 16H9, 7A11, 4E7, 117.1, 368.1, 446.1, 501.1, and 776.1, or an antigen-binding antibody fragment thereof.
117. (currently amended) An isolated antibody or antigen-binding antibody fragment that competes with binding of a monoclonal antibody of Claim 116.
118. – 119. (canceled).